

REMARKS

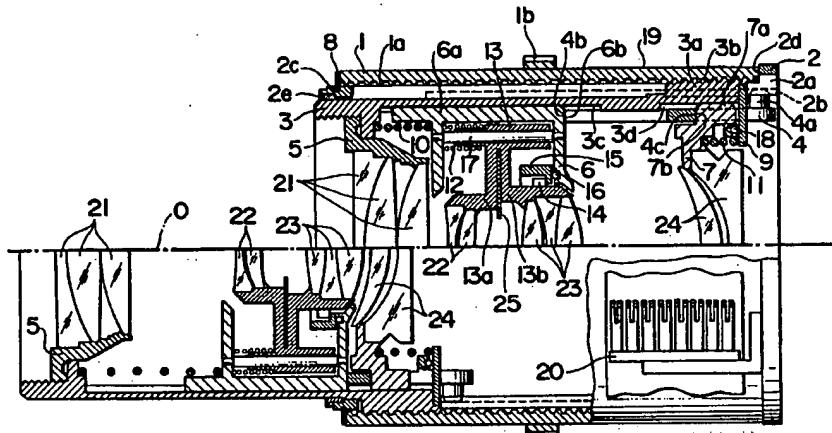
Claims 11-15 and 17 are pending. Claims 1-10 have been withdrawn. Claim 16 was canceled.

In the final Office Action dated March 25, 2008, the Examiner rejects pending claims 11-15 and 17 on various grounds: 1) claim 15 stands rejected as anticipated by US Patent No. 4,993,815 to Yamazaki ("Yamazaki"); 2) claims 11-14 stand rejected under 35 USC 103(a) as obvious over US Patent No. 3,744,884 to Filipovich ("Filipovich") in view of US Patent No. 4,934,789 to Lemke ("Lemke"); and 3) claim 17 stands rejected under 35 U.S.C. 103(a) as obvious over Yamazaki in view of Filipovich and further in view of Lemke. Applicants submit the following remarks to facilitate an understanding of the cited prior art, the pending claims and the difference between the claims and the cited prior art. Applicants have also amended dependent claim 12 consistent with the apparatus shown in Fig. 40 of Applicants' pending application. In view of the remarks and amendment to dependent claim 12, Applicants submit that all pending claims are allowable over the cited prior art for the detailed reasons set forth below.

Rejection of Claim 15

Claim 15 stands rejected as anticipated by Yamazaki. After considering the Examiner's bases for rejecting claim 15, the Examiner has apparently either misunderstood the language of claim 15 or misunderstood the teaching in Yamazaki. For convenience, Applicants import Figure 1 from Yamazaki that is relied upon by the Examiner in formulating his rejection of claim 15. As explained below, Yamazaki fails to anticipate claim 15 for numerous reasons.

FIG. I



Claim 15 requires, *inter alia*, a "rotational axis rod having gears at both ends thereof." In other words, claim 15 requires a rotational **rod** having gears located at both ends of the rotational **rod**. In relying on Yamazaki to reject claim 15, the Examiner asserts that the rotational axis rod of claim 15 is disclosed in Yamazaki by the reference to an imaginary axis "O" as shown in Fig. 1 of Yamazaki (see above). Yamazaki explains "the zoom lens has an optical axis which is **represented by a reference O . . .**" Col. 3, lines 34-35 (emphases added). As further explained, "the ring 1 and the frame 2 and the movable frame assembly are concentric with the optical axis O." Col. 3 at lines 38-40. Thus, Yamazaki does not disclose that the reference axis O is a rotational axis **rod**. For this reason alone, Yamazaki is deficient in anticipating claim 15 inasmuch as Yamazaki fails to disclose every element of claim 15.

Further, not only does claim 15 require a rotational optical axis, it also requires that the rod have gears at both ends thereof. The optical axis O has no structure, no more than any other imaginary reference line does, and cannot have "gears located at both ends thereof." There can be no doubt that Yamazaki does not disclose that the optical axis O has gears at both ends thereof. The Examiner seems to recognize this deficiency in Yamazaki and instead asserts,

without explanation, that the zooming transmission gear 1b of Yamazaki is associated with the optical axis O (which is not a rotational axis **rod**, as claimed). For the requirement of claim 15 that the gears be "at both ends [of the rotational axis rod]" the Examiner loosely points to col. 3, lines 41-54 of Yamazaki. For discussion, that section is reproduced below:

The zoom ring 1 is made of a cylinder and has a zooming transmission gear 1b which is driven by a zooming motor driving unit (not shown) provided at the midpoint of the outer periphery of the cylinder. The ring 1 is formed with a helicoid screw 1a at the inner periphery thereof. A flexible printed wiring board 19 is arranged on and secured to the outer periphery at the end (mount side) of the ring 1. The board 19 is printed with an encoding pattern for an encoder (not shown). The zoom position of the zoom lens is read out on zooming by means of encoder contacts 20 supported by the stationary frame 2, which are in contact with the encoder pattern. so that the contacts provide zoom position information to a CPU

Nowhere does the section of Yamazaki relied upon by the Examiner, as quoted above, disclose the claimed element of a rotational axis rod having gears at both ends thereof. Instead, that section merely explains that the device in Yamazaki has a zoom ring that has a zooming transmission gear 1b. That gear 1b as shown in Fig. 1b is **concentric** with the optical axis. Indeed, the specification states that the ring 1 is "concentric with the optical axis O." Consequently, the zooming transmission gear 1b which is arranged concentrically with the ring 1 is also concentric with the optical axis O. This can plainly be seen from Fig. 1. Thus, Yamazaki fails to disclose the claimed elements of gears at both ends of the rotational axis rod. For this separate reason, Yamazaki cannot anticipate claim 15.

Claim 15 further requires a first group of rate reducing gears. Specifically, claim 15 recites " a first group of rate reducing gears which engage the gear at one end of the rotational axis rod." First, as already explained, Yamazaki fails to disclose "the gear at one end of the rotational axis rod." For the rate reducing gears, the Examiner **again** points to zooming

transmission gear 1b of Fig. 1. Thus, according to the Examiner, zooming transmission gear 1b is both the gears required in the prior clause and also the rate reducing gears. The Office Action provides no support for this improper double use of the zooming transmission gears. In any event, even assuming *arguendo* that zooming transmission gear 1b is a rate reducing gear it fails to meet the limitation of claim 15 in that zooming transmission gear 1b does not "engage the gear at one end of the rotational axis rod" as is required of the rate reducing gears in claim 15. Thus, for this separate reason, Yamazaki cannot anticipate claim 15.

Claim 15 further requires "a second group of rate reducing gears which engage the gear at another end of the rotational axis rod." Here, the Examiner asserts that focusing shaft 34 meets the limitation of the "second group of rate reducing gears." This is incorrect. As explained in Yamazaki, focusing shaft 34 is described in connection with the second embodiment as shown in Fig. 4 of Yamazaki. As shown in Fig. 4, the focusing shaft 34 does not "engage the gear at another end of the rotational axis rod." Furthermore, as already explained, Yamazaki fails to disclose "the gear at another end of the rotational axis rod." Thus, Yamazaki does not anticipate claim 15 on these separate grounds.

Claim 15 further requires "a motor which drives the second group of rate reducing gears." The Examiner asserts that Yamazaki discloses a motor which drives the second group of reducing gears, which the Examiner asserts is met by focusing shaft 34. However, the motor disclosed in Yamazaki is used to drive the gears 1b, which the Examiner has described as both the gears on the ends of the rotational axis rod **and** the first group of rate reducing gears. Even if Applicants agreed with Examiner, which they do not as already explained, the motor does not drive the focusing shaft 34, which the Examiner has asserted is the second group of reducing gears. Thus, Yamazaki does not anticipate claim 15 on this separate ground.

Claim 15 further requires "a cam body driven by the first rate reducing gears, the cam body having at least one spiral cam groove formed by confronting cam planes." The Office Action is unclear as to feature of Yamazaki that the Examiner argues meets the claimed "cam body." The Office Action references "zooming motor driving unit." As is plainly apparent from Fig. 1 of Yamazaki, there is no disclosure of a "a cam body driven by the first rate reducing gears, the cam body having at least one spiral cam groove formed by confronting cam planes." Additionally, as previously mentioned, the Examiner has failed to identify first rate reducing gears. In any event, that element is certainly not met by the zooming motor driving unit. For this further reason, Yamazaki cannot anticipate claim 15.

Claim 15 further requires " a holding frame which holds the zoom lens." That same holding frame is further described as with reference to "a cam groove inserting member provided on the holding frame." In the Office Action, the Examiner describes the holding frame which holds the zoom lens as met by the stationary frame 2 that is shown in Fig. 1 of Yamazaki. Later, when discussing the cam groove inserting member that is providing on the holding frame, the Examiner references differential frame 4 as the holding frame. Specifically, the Examiner asserts "cam groove inserting member (driving pins 4a, Fig. 2) provided on the holding frame (differential frame 4, Fig. 2)." Again, the Examiner has erred by referencing the same holding frame of claim 15 as **both** items 2 (stationary frame) and 4 (differential frame) of Yamazaki. Stationary frame 2, previously identified by the Examiner as the holding frame, does not disclose a cam groove inserting member. Thus, Yamazaki again fails to disclose all the features of claim 15. For this other reason, Yamazaki cannot anticipate claim 15.

In sum, the Examiner has failed to demonstrate that Yamazaki anticipates claim 15 for at least the following reasons:

- The imaginary reference line identified as the optical axis O in Yamazaki is not a rotating axial rod. Yamazaki does not disclose a rotating axial rod.
- The imaginary reference line identified as the optical axis O in Yamazaki does not have gears at both ends thereof. While Yamazaki does disclose gears 1b, those gears are arranged concentrically about the reference optical axis O. Those gears 1b are not at both ends of the reference optical axis O. Indeed, as a reference line, the optical axis O does not have ends. Rather, it extends indefinitely in each direction.
- Gears 1b cannot be **both** the gears on both ends of the rotational axis rod and the first group of rate reducing gears which engage the gear at one end of the rotational axis rod.
- Focusing shaft 34 disclosed in Yamazaki is not a second group of rate reducing gears which engages the gears at another end of the rotational axis rod.
- The motor disclosed in Yamazaki is used to drive the gears 1b, which the Examiner has described as both the gears on the ends of the rotational axis rod **and** the first group of rate reducing gears. Even if Applicants agreed with Examiner, which they do not as already explained, the motor does not drive the focusing shaft 34, which the Examiner has asserted is the second group of reducing gears
- Yamazaki does not disclose a cam body driven by the first rate reducing gears.

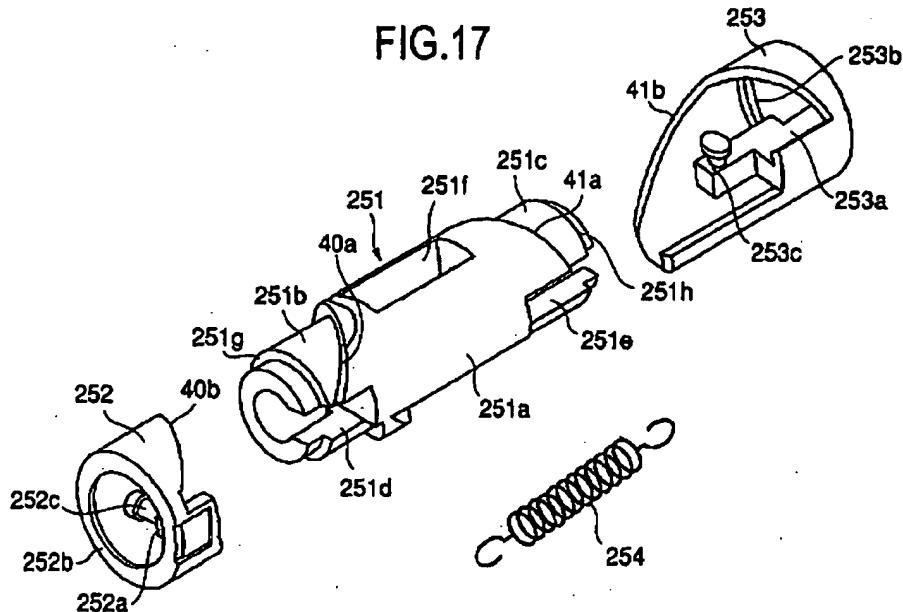
- The Examiner has improperly identified two different holding frames in his analysis of Yamazaki, stationary frame 2 and differential frame 4. Claim 15 speaks to only one holding frame. Stationary frame 2 does not have a cam groove inserting member provided thereon.

Thus, the Examiner has failed to meet his burden of demonstrating that all the elements of claim 15 are found in the single reference Yamazaki as is required to establish anticipation under 35 USC 102 (b). Accordingly, claim 15 is allowable over the cited prior art. Claim 17, which depends from claim 15, is allowable over the cited prior art for the same reasons. In addition, claim 17 is not rendered obvious for the reasons provided below for distinguishing claim 11 over Filipovich and Lemke to the extent claim 11 and claim 17 have identical claimed elements. As explained below, none of the elements required in claim 17, when properly read, are disclosed or suggested in any of Yamazaki, Filipovich or Lemke.

Rejection of Claims 11-14 under 35 U.S.C. 103(a)

Claims 11-14 stand rejected under 35 U.S.C. 103(a) as unpatentable over Filipovich in view of Lemke. Like the analysis of Yamazaki in rejecting claim 15, the Examiner has again either apparently misunderstood the pending claims or misunderstood the disclosure of the cited prior art. Also, the Examiner has again improperly relied on a single element in the prior art to refer to multiple, different elements in the claims (for example, the Examiner refers to second barrel portion 24 in Filipovich as **both** the middle portion of the cam base body **and** the second cam frame in pending claim 11). For that reason alone, the Examiner has failed to meet his burden of demonstrating that claims 11-14 are rendered obvious by the cited prior art. The obviousness analysis as concerns claims 11-14 is flawed for other reasons as well, as explained below.

By way of background, claim 11 is directed to a cam apparatus of the type disclosed in Applicants' specification. An example of a device as claimed can be found in Figure 17 of Applicants specification, which is reproduced below for easy reference. Figure 17 is taken from Applicants' US Published Application No. US 2004/0233303 A1.



As shown in Figure 17, and as described in the related portions of Applicants' specification, Figure 17 discloses a cam base body 251 having sliding portions 251b and 251c. As further explained a cam plane 40a is formed at a stepped portion between the middle portion 251a and the sliding portion 251c. That stepped portion is readily seen in Fig. 17 above. Additionally, cam frame 252 has another cam plane 40b for forming with cam plane 40a a cam groove 40. Similarly, cam frame 253 has another cam plane 41b for forming with cam plane 41a a cam groove 41. In this regard, the specification explains:

With regard to the cam base body 251, the cam frames 252, and 253, after the cam frame 252 is fit to the sliding portion 251b of the cam base body 251 and the cam frame 253 is fit to the sliding portion 251c, one end of coil spring 254 is hooked to the spring hooking portion 252c of the cam frame 252 and another end is

hooked to the spring hooking portion 253c of the cam frame 253. Then the coil spring 254 presses the cam frame 252 and 253 in a direction of approaching each other so that the flange portion 252b advances until it strikes the stepped portion 251g as the cam frame 252 slides the sliding portion 251b. With this state, the first cam groove is formed by the one cam plane 40a and the other cam plane 40b. Likewise, the cam frame 253 slides the sliding portion 251c and the flange portion 253b advances until it strikes the stepped portion 251h so that the second cam groove is formed by the one cam plane 41a and the other cam plane 41b with this state. Thus formed cam grooves 40, 41 become spring shaped cam grooves matched with movement of the first and second lens groups 21, 22 necessary to zooming.

US Published Application No. US 2004/0233303 A1 at [0126].

Claim 11 specifically requires a cam apparatus having first and second spiral cam grooves for moving an object with a cam-driving force which is generated by cam-driving a cam groove inserting member inserted in each cam groove, wherein the cam apparatus comprises:

(a) a cam base body having a generally cylindrical middle portion and first and second sliding portions formed at both ends of said middle portion and said sliding portions having a smaller diameter than that of said middle portion, said cam base body further comprising a first stepped portion forming an approximately vertical plane between said first sliding portion and said middle portion thereby defining a cam plane of the first spiral cam groove and a second stepped portion forming an approximately vertical plane between said second sliding portion and said middle portion thereby defining a cam plane of the second spiral cam groove;

(b) a first cam frame having another cam plane confronting said cam plane of the first cam groove and provided non-rotatably so as to be able to slide on said first sliding portion;

(c) a second cam frame having another cam plane confronting said cam plane of the second cam groove and provided non-rotatably on the second sliding portion so as to be able to slide;

(d) a forcing device which connects the first and second cam frames to the cam base body; and

(e) cam groove inserting members, each of which is received within one of the first and second spiral grooves.

In rejecting claim 11, the Examiner has mainly relied on the disclosure of Filipovich, with particular emphasis on Fig.1. At this point, it is helpful to understand that Filipovich is directed to a lens mount assembly that supports two lens elements, lens cell 48 (having carrier body 50) and lens cell 76 (having carrier body 78). The lens elements, 48 and 76 are adjusted by rotation of an external sleeve which cooperates with cam followers on the lens elements that ride on cam surfaces defined by internal barrel portions, first and second barrel portions 16 and 24. Thus, the lens elements are not cams or cam surfaces, as argued by the Examiner, but are rather supported within cam surfaces formed by the barrel portions.

Specifically, Filipovich explains:

A lens mount assembly according to the present invention supports two lens element carriers arranged for simultaneous differential movement along the optical axis defined by the elements in the carriers and other optical elements. Adjustment of the optical elements is caused by rotation of an external sleeve which cooperates with cam followers on the lens carriers, which followers ride on cam surfaces defined by internal barrel portions. Upon assembly of the barrel portions, the cam surfaces cooperate to define cam tracks causing precise relative adjustment of the lens carriers. Together with the resulting barrel, the sleeve and lens carriers are formed of dimensionally stable synthetic material.

However, the disclosed lens mount assembly of Filipovich has no bearing on the device of claim 11 and its dependent claims. As recited above, claim 11 requires, *inter alia*, "a cam base body having a generally cylindrical middle portion and first and second sliding portions formed at both ends of said middle portion and said sliding portions having a smaller diameter than that of said middle portion." The Examiner, in allegedly finding this claimed

element in the cited prior art, improperly dissects the claim language to find individual elements that ignore the totality of the claim language thereby stripping it of its meaning. Specifically, the Examiner asserts that carrier body 50 of Filipovich meets the limitation of a cam base body. For the claimed "first sliding portion" the Examiner points to "first barrel portion 16" of Filipovich, and for the claimed "second sliding portion" the Examiner points to "second barrel portion 24" of Filipovich. However, the Examiner's piecemeal analysis of the claim language incorrectly omits (or reads out) the requirement of claim 11 that the cam base body have a "cylindrical middle portion" and that the first and second sliding portions are "**formed at both ends of said middle portion.**" The Examiner acknowledges that Filipovich does not disclose a cam base body having a middle portion but ignores that Filipovich also fails to disclose that the first and second sliding portions are formed at both ends of the middle portion. Indeed, the body 50 is the carrier body for the lens cell 48, which is differentially **moved** along the optical axis. Filipovich explains that the lens cell 48 is supported and moved within the cam track 44 formed between the cam surfaces of first barrel portion 16 and second barrel portion 24. Thus, carrier body 50 that is part of lens cell 48 is not a cam base body having a generally cylindrical middle portion and first and second sliding portions formed at both ends of said middle portion and said sliding portions having a smaller diameter than that of said middle portion as required by claim 11. This claimed aspect is also lacking in Lemke. The Examiner does not assert otherwise. For this reason alone, claim 11 is not rendered obvious by the combination of Filipovich and Lemke.

Claim 11 further requires "said cam base body further comprising a first stepped portion forming an approximately vertical plane between said first sliding portion and said middle portion thereby defining a cam plane of the first spiral cam groove." For the claimed "first stepped portion" the Examiner identifies first barrel portion 16. The Examiner incorrectly

assigns the same element in the prior art to correspond to multiple, different elements in a single claim. Here, the Examiner has identified "first barrel portion 16" as meeting all of the following different limitations of claim 11: "first sliding portion," "first stepped portion," "middle portion" and a "first cam frame." By way of comparison, the exemplary device shown in Applicants' Fig. 17 shows a first stepped portion formed between middle portion 251a and sliding portion 251b. By relying on the same element in Filipovich to apply to multiple, different elements in the claims, the Examiner has failed to establish that the prior art shows either the "first sliding portion" or the "first stepped portion" as required by claim 11. Accordingly, the Examiner has failed to meet his burden that claim 11 is rendered obvious by the combination of Filipovich and Lemke. In any event, the first barrel portion cited to by the Examiner does not meet the claimed limitation.

Claim 11 further requires "a second stepped portion forming an approximately vertical plane between said second sliding portion and said middle portion thereby defining a cam plane of the second spiral cam groove." The Examiner asserts this limitation is met in the following way "a second stepped portion (second barrel portion 24) thereby forming an approximately vertical plane (cam surface portions 40, Fig. 1) between said second sliding portion (second barrel portion 24) and said middle portion (first barrel portion 16) thereby defining a cam plane of the second spiral groove (cam track 68)." As with the prior limitation, the Examiner has again applied one element in Filipovich against multiple, distinct elements in the claim. Specifically, the Examiner has described the second barrel portion 24 in Filipovich as " said second sliding portion" and "said second stepped portion." In addition, the Examiner previously described the **second** barrel portion 24 as the "middle portion." However, with respect to this element of claim 11, the Examiner now describes **first** barrel portion 16 as the

"middle portion." Finally, the Examiner has erred in defining the second spiral groove as cam track 68. It is readily apparent from Fig. 1 of Filipovich that cam track 68 is not formed by second barrel portion 24 or cam surface portions 40 as the Examiner has asserted in his analysis. Thus, this element of claim 11 is absent in Filipovich. This claimed aspect is also lacking in Lemke. The Examiner does not assert otherwise. As is apparent from the foregoing, the Examiner has inconsistently and incorrectly compared the disclosure of Filipovich to the device of claim 11 thereby having failed to meet his burden to demonstrate that claim 11 is rendered obvious by Filipovich and Lemke.

Claim 11 further requires "a first cam frame having another cam plane confronting said cam plane of the first cam groove and provided non-rotatably so as to be able to slide on said first sliding portion." Here, the Examiner asserts the "first cam frame" limitation is met by first barrel portion 16, which has previously been identified by the Examiner as the "first stepped portion," the "first sliding portion," and the "middle portion." The Examiner identifies the "another cam plane" of the first cam frame as abutments 22 and "said cam plane of the first cam groove" as cam surface portions 20. This analysis is flawed, like the prior analysis, in again using "first barrel portion 16" of Filipovich as identifying yet another element of claim 11. Additionally, the Examiner incorrectly argues that abutments 22 and cam surface portions 20 of Filipovich meet the limitation of "another cam plane confronting said cam plane of the first cam groove." That this analysis is flawed is readily apparent from an inspection of Fig. 1 of Filipovich. As shown in Fig. 1, abutment 22 is not a cam plane. Rather, abutment 22 is configured on first barrel portion 16 to match up with spacer members 36 so that first barrel portion 16 and second barrel portion 24 are fixed to each other by means of screws. In other

words, abutments 22 and spacers 36 are means for fixing together first barrel portion 16 and second barrel portion 24. Filipovich explains:

Referring to the drawings, a lens mount assembly 10 is shown attached to a face plate member 12 of a camera, not otherwise shown. In this preferred embodiment, a first barrel portion 16 is integral with and extends axially from the face plate member 12. On the remote end edge 18 of that barrel portion are formed several cam surface portions 20, shown as three, and therebetween a corresponding number of abutments 22. Relative to the abutments on this first barrel portion, a second barrel portion 24 is substantially aligned and fixedly positioned by attaching members 28, shown as self tapping screws. The screws pass through locating holes 30 in the second barrel portion into receiving seats 34 in the abutments of the first barrel portion. A plurality of spacer members 36 are arranged on the adjacent edge of the second barrel portion to cooperate with the abutments 22. On the remainder of the edge of the second barrel portions are formed cam surface portions 40 which cooperate with the cam surface portions 20 of the first barrel portion. The cam surface portions prescribe an axially effective cam track 44 in which a lens element carrier or lens cell 48 is adjustably supported.

US Patent No. 3,744,884 at col. 2, lines 12-34.

Thus, the Examiner's analysis of Filipovich and understanding of abutments 22 is incorrect. As is apparent from the foregoing, the Examiner has inconsistently and incorrectly compared the disclosure of Filipovich to the device of claim 11 thereby having failed to meet his burden to demonstrate that claim 11 is rendered obvious by Filipovich and Lemke. Thus, for this separate reason, claim 11 is not rendered obvious by the cited prior art.

Claim 11 further requires "a second cam frame having another cam plane confronting said cam plane of the second cam groove and provided non-rotatably on the second sliding portion so as to be able to slide." Here, the Examiner asserts that the "second cam frame" of claim 11 is met by the second barrel portion 24 of Filipovich, the "another cam plane" of claim 11 is met by the spacer members 36 and the "said cam plane of the second cam groove" is

met by cam surface portions 40. The Examiner has again used second barrel portion 24 to identify yet another separate and distinct element of claim 11. According to the Examiner second barrel portion 24 is also the "second stepped portion," the "second sliding portion" and the "middle portion" of claim 11. With respect to the "second cam groove" of claim 11, the Examiner has previously identified cam track 68. As is apparent from Fig. 1 of Filipovich, cam track 68 is not formed by cam surface portions 40 of second barrel 24. Also, as explained above, Filipovich explains that spacer member 36 is not a cam plane and therefore cannot be "another cam plane of the second cam frame. As is apparent from the foregoing, the Examiner has inconsistently and incorrectly compared the disclosure of Filipovich to the device of claim 11 thereby having failed to meet his burden to demonstrate that claim 11 is rendered obvious by Filipovich and Lemke.

Claim 11 further requires "a forcing device which connects the first and second cam frames to the cam base body." The Examiner identifies sleeve 90 of Filipovich as the "forcing device" of claim 11. The Examiner misapprehends Filipovich. Filipovich explains "lens cells 48 and 76 are adjustable simultaneously and differentially by a sleeve 90." Filipovich does not disclose that sleeve 90 "connects the first and second cam frames to the cam base body" as required by claim 11. Rather, the barrel portions 16 and 24 of Filipovich that the Office Action identifies as relevant to claim 11 are connected by screws 28. Those screws 28 do not connect the first and second cam frames to the cam base body as required by claim 11. Thus, Filipovich does not disclose a forcing device as recited in claim 11. Accordingly, claim 11 is not rendered obvious by the cited prior art for this additional reason.

Furthermore, Filipovich fails to disclose "cam groove inserting members, each of which is received within one of the first and second spiral grooves," as required by claim 11.

There is no such disclosure in Filipovich. The office action points to cam follower studs 54 on the lens cell 48. At most studs 54 are received within one cam track. The Examiner has failed to identify "cam grooving inserting members, each of which is received within one of the **first and second** spiral grooves." For this additional reason, claim 11 is not rendered obvious by the cited prior art.

As explained above, the Examiner has failed to fully understand the apparatus of claim 11 as having, *inter alia*, first and second cam grooves that are formed from first and second cam frames that connect non-rotatably and slideably in the axial direction on a cam base body. A forcing device, e.g. a spring, is used to connect the first and second cam frames to the cam base body. Cam groove inserting members are then received within the first and second spiral grooves.

As pointed out above, Filipovich is just not applicable to the claimed device. Similarly, Lemke fails to teach a cam base body having sliding portions at both ends of the middle portion. Moreover, Lemke, like Filipovich, fails to disclose the other elements of claim 11 including the claimed first and second cam frames, forcing device and cam groove inserting members. The Examiner does not assert otherwise.

Dependent claims 12-14, which depend from claim 11, are not rendered obvious by the cited prior art for the same reasons independent claim 11 is not obvious. The dependent claims are not rendered obvious for additional reasons as well.

Claim 12 is not rendered obvious in that Filipovich fails to disclose an adjusting means for adjusting a distance between the confronting cam planes of each of the first and second cam grooves. As explained, for example, in Applicants pending application and as shown in Fig. 40, claim 12 is directed to the type of cam apparatus that is described as having

"the distance between the one cam plane 40a formed on the cylinder type base body 351 and the one cam plane 41a formed on the cylinder type base body 352 is finely adjusted by rotating the eccentric pin 74 for adjusting an inserted depth of the inserting shaft portion 351a." Such a device is clearly not disclosed in any of the cited prior art.

Moreover, the Office Action points to sleeve 90 as both the forcing device of claim 11 **and** the adjusting mechanism of claim 12. Sleeve 90 is neither. Rather, as explained in Filipovich, sleeve 90 is used to adjust simultaneously and differentially the lens cells 48 and 76. Sleeve 90 does not "adjust a distance between the confronting cam planes of each of the first and second cam grooves". Indeed, it would seem that the cam track 44 of Filipovich is **not** adjustable inasmuch as cam track 44 is formed between first barrel portion 16 and second barrel portion 24, which are immovably connected to each other by screws. Filipovich explains: "screws pass through locating holes 30 in the second barrel portion into receiving seats 34 in the abutments of the first barrel portion." Col. 2 at 23-25. Sleeve 90 is completely independent of cam track 44 and certainly is not used to adjust a distance of the cam track. Accordingly, claim 12 is not rendered obvious by Filipovich in combination with Lemke or any cited art.

Claim 13 is not rendered obvious over the cited prior art on the separate ground that Filipovich fails to disclose "at least one of the first and the second spiral grooves is sloped, and wherein the sloped cam plane gives a cam driving force along a direction of the rotational axis of the cam groove and pushing force along a direction orthogonal to the direction of the rotational axis of the cam groove to the cam groove inserting member." See for example, sloped or slanted cam surfaces 40b and 41b in Figure 20 of Applicants original specification.

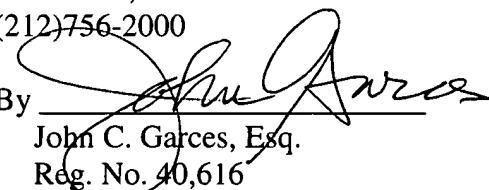
Claim 14, which also recites a forcing device, is not rendered obvious for the same reasons that claim 11 is not rendered obvious. Moreover, claim 14 requires the "forcing

device is fastened at one end to the first cam frame and at another end to the second cam frame and the forcing device presses the first and second cam frame to the cam base body along one direction." The Office Action identifies sleeve 90 as the forcing device. However, as readily apparent from Filipovich the sleeve 90 does not press the first and second frame, as identified by the Examiner. Indeed, the first and second cam frame identified by the Examiner, first and second barrel portions 16 and 24, are fastened together by screws not by a forcing device that "presses the first and second cam frame to the cam base body along one direction." Accordingly, claims 14 is not rendered obvious by the cited prior art.

For the foregoing reasons, claims 11-15 and 17 are allowable over the cited prior art. The Examiner is urged to telephone Applicants' undersigned counsel if it will advance the prosecution of this application. The Patent and Trademark Office is authorized to charge any fees required for the entry of this Response, including fees for an extension of time, and any further fees that are properly assessable in this case, or to credit any overpayment, to Deposit Account No. 50-0675, Order No.848075/0067. In the event that an extension of time is needed for entry of this Response that is not otherwise provided for, such extension of time is hereby respectfully requested.

Respectfully submitted,

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